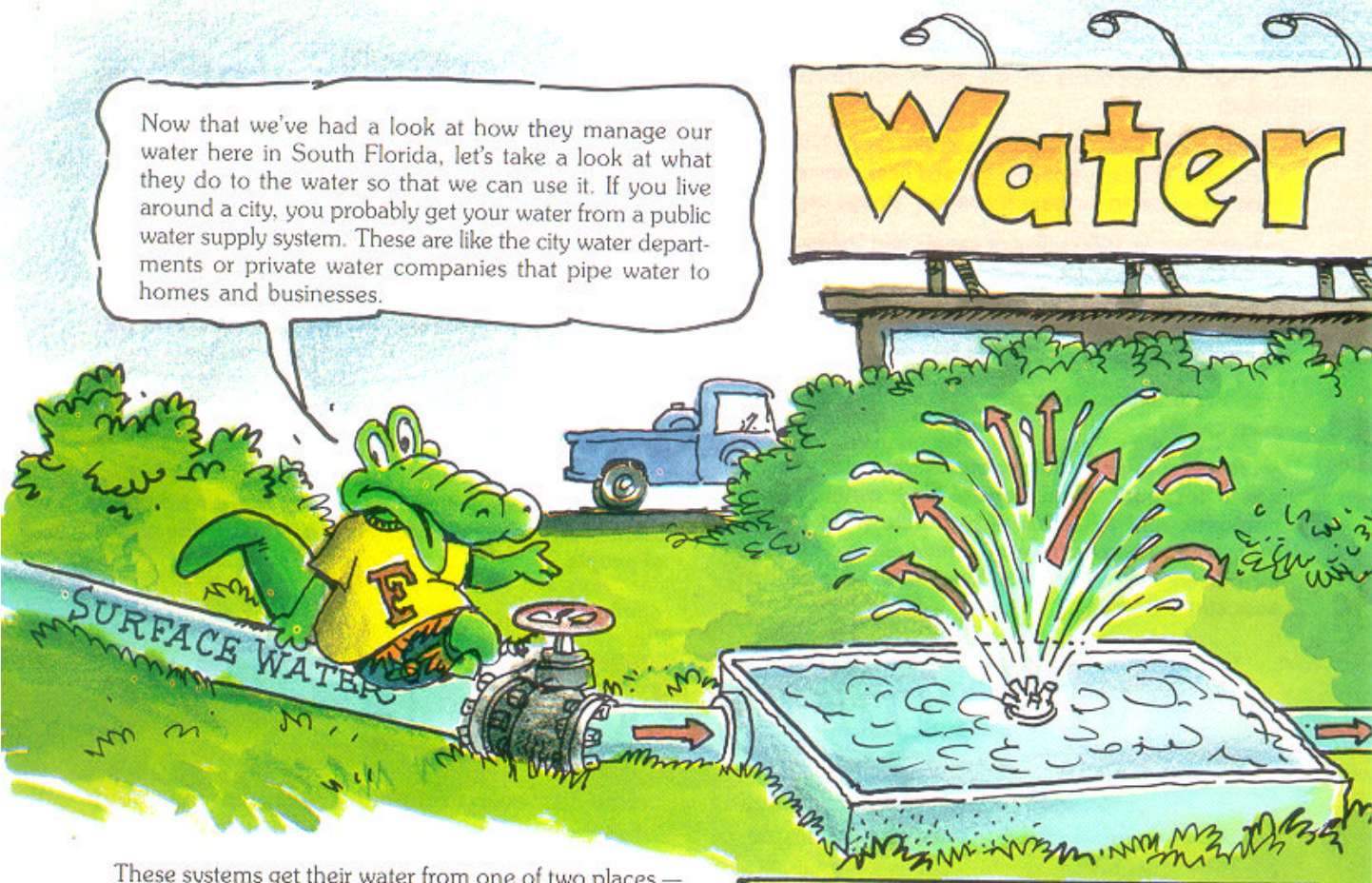
# Water

Now that we've had a look at how they manage our water here in South Florida, let's take a look at what they do to the water so that we can use it. If you live around a city, you probably get your water from a public water supply system. These are like the city water departments or private water companies that pipe water to homes and businesses.




These systems get their water from one of two places — large wells or surface water, like Lake Okeechobee.

In Florida, if you run a public water supply system, you have to treat the water you sell, to make sure that it's safe to drink.

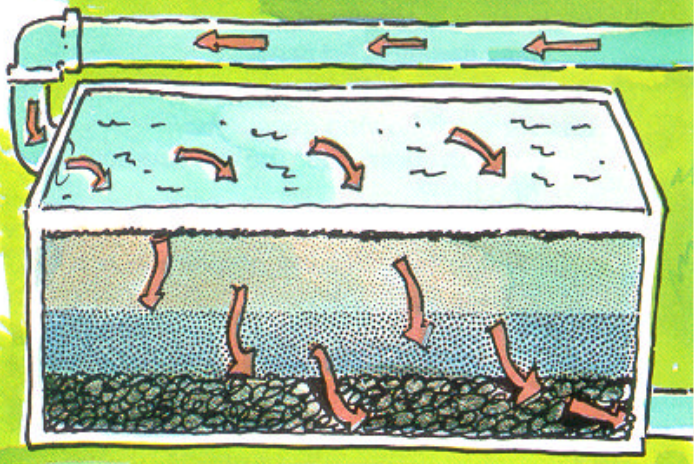
Systems that use groundwater for their supply usually put small amounts of chlorine in the water. The chlorine is a disinfectant, which means it kills any harmful microorganisms that might get in the water. Microorganisms are tiny life forms, like bacteria. Killing the microorganisms is usually all it takes to make groundwater safe to drink.

Surface water is a whole 'nother story. It needs a lot more treatment. That's because surface water collects sticks, dirt and other gunk off of the ground.

To clean up surface water, public water systems use water treatment plants. These are places where water is screened, filtered and treated with chemicals to remove any impurities. Getting all that stuff out is a much bigger process than just adding chlorine. Here's how they do it.

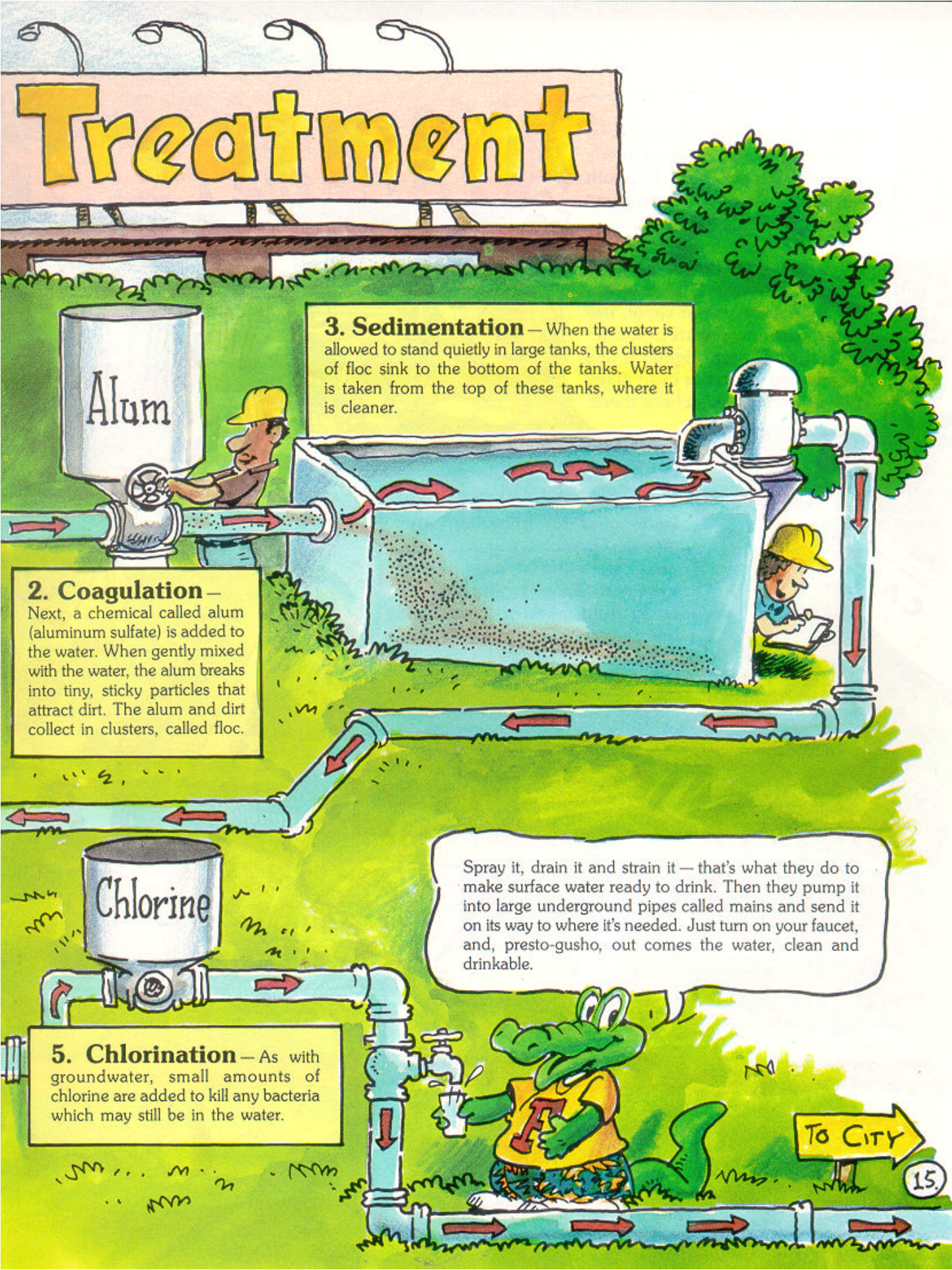
Usually at a treatment plant water will go through a five-step process.

**1. Aeration** — In this step the water is sprayed into the air to allow trapped gases to escape and to add oxygen from the air. Getting rid of trapped gases and adding oxygen make the water taste better.



**4. Filtration** — While water from the top of the tanks is cleaner, it still is not clean enough. So, they filter the water through layers of sand, gravel and rocks. The filters trap tiny particles that still are in the water.

# Treatment




**3. Sedimentation** — When the water is allowed to stand quietly in large tanks, the clusters of floc sink to the bottom of the tanks. Water is taken from the top of these tanks, where it is cleaner.

**2. Coagulation** — Next, a chemical called alum (aluminum sulfate) is added to the water. When gently mixed with the water, the alum breaks into tiny, sticky particles that attract dirt. The alum and dirt collect in clusters, called floc.

Spray it, drain it and strain it — that's what they do to make surface water ready to drink. Then they pump it into large underground pipes called mains and send it on its way to where it's needed. Just turn on your faucet, and, presto-gusho, out comes the water, clean and drinkable.

**5. Chlorination** — As with groundwater, small amounts of chlorine are added to kill any bacteria which may still be in the water.